CLAIMS

1. An isolated nucleic acid segment comprising an SM22α promoter, wherein said promoter is a segment of about 5,000 bases immediately upstream of the transcriptional start site of the murine SM22α genome and wherein said promoter is operatively linked to a heterologous nucleic acid sequence.

2. An isolated nucleic acid segment of claim 1, further defined as comprising a nucleic acid segment having a sequence according to bases 899-1382 of SEQ ID NO:1, or being hybridizable to the complement of bases 899-1382 of SEQ ID NO:1 under high stringency conditions, and effective to promote transcription of a heterologous gene in a smooth muscle cell.

3. The isolated nucleic acid segment of claim 1, wherein said promoter sequence is further defined as comprising a contiguous sequence of bases 899-1382 of SEQ ID NO:1.

4. The isolated nucleic acid segment of claim 1, wherein said promoter sequence is further defined as comprising a contiguous sequence of bases 1-1382 of SEQ ID NO:1.

5. The isolated nucleic acid segment of claim 1, wherein said promoter sequence is further defined as comprising a contiguous sequence of bases 1060-1382 of SEQ ID NO:1.

6. The nucleic acid segment of claim 1, wherein said heterologous nucleic acid sequence encodes a cell cycle control gene, an angiogenesis gene or a cytotoxic gene.

7. The nucleic acid segment of claim 6, wherein said cell cycle control gene is selected from the group consisting of Rb, a phosphorylation deficient Rb gene, p53, p21, p16, p27, a cell cycle dependent kinase inhibitor, E2F inhibitor, a CDK kinase or a cyclin gene.

8. The nucleic acid segment of claim 6, wherein said cell cycle control gene is a phosphorylation deficient Rb gene, p53, p21 or p16.

9. The nucleic acid segment of claim 6, wherein said angiogenesis gene is VEGF, iNOS, eNOS, basic FGF or FGF-5.

10. The nucleic acid segment of claim 6, wherein said angiogenesis gene is VEGF, iNOS or eNOS.

11. The nucleic acid segment of claim 6, wherein said cytotoxic gene is a *herpes simplex* thymidine kinase gene.

12. The nucleic acid segment of claim 6, wherein said heterologous nucleic acid sequence encodes an antisense RNA effective to inhibit expression of a cell cycle control gene.

13. A recombinant vector comprising the isolated nucleic acid segment of claim 1.

14. The recombinant vector of claim 13, further defined as a plasmid.

15. The recombinant vector of claim 13, further defined as a viral vector.

16. The recombinant vector of claim 15, wherein said viral vector is a bacteriophage vector, a raus sarcoma virus vector, a p21 virus vector an adeno-associated virus vector or an adenoviral vector.

17. The recombinant vector of claim 16, wherein said vector is a replication defective adenovirus vector.

18. The recombinant vector of claim 13, dispersed in a pharmaceutically acceptable solution.

19. A host cell wherein said cell contains the nucleic acid segment of claim 1.

20. The host cell of claim 19, wherein said nucleic acid segment is contained in a vector.

21. The host cell of claim 19, wherein said host cell is a smooth muscle cell.

22. The host cell of claim 21, wherein said cell is an A7r5 cell.

23. A replication deficient adenoviral vector, wherein said vector comprises a smooth muscle cell specific transcriptional regulatory segment.

24. The vector of claim 23, wherein said smooth muscle cell specific transcriptional regulatory segment is an SM22α promoter, a smooth muscle calponin promoter, a smooth muscle myosin heavy chain promoter, a smooth muscle alpha actin promoter, a smooth muscle alpha actin enhancer, a telokin promoter, a smooth muscle gamma-actin promoter or a smooth muscle gamma-actin enhancer.

25. The vector of claim 23, wherein said vector comprises an SM22α promoter segment operatively linked to a heterologous gene.

26. The vector of claim 25, wherein said heterologous gene encodes a a cell cycle control gene, an angiogenesis gene or a cytotoxic gene.

27. The vector of claim 26, wherein said cell cycle control gene is selected from the group consisting of Rb, a phosphorylation deficient Rb gene, p53, p21, p16, p27, a cell cycle dependent kinase inhibitor, E2F inhibitor, a CDK kinase or a cyclin gene.

28. The vector of claim 26, wherein said cell cycle control gene is a phosphorylation deficient Rb gene, p53, p21 or p16.

29. The vector of claim 26, wherein said angiogenesis gene is VEGF, iNOS, eNOS, basic FGF or FGF-5.

30. The vector of claim 26, wherein said angiogenesis gene is VEGF, iNOS or eNOS.

31. The vector of claim 26, wherein said cytotoxic gene is a *herpes simplex* thymidine kinase gene.

32. The vector of claim 26, wherein said heterologous nucleic acid sequence encodes an antisense RNA effective to inhibit expression of a cell cycle control gene.

33. The vector of claim 23, wherein said vector is dispersed in a pharmacolgically acceptable solution.

34. A method of expressing a heterologous gene in a smooth muscle cell comprising the steps of:

(a) obtaining a nucleic acid segment comprising a murine SM22α promoter region operatively linked to a heterologous gene, wherein said nucleic acid is contained in an adenoviral vector;

(b) infecting said smooth muscle cell with said adenoviral vector; and

(c) culturing said smooth muscle cell under conditions effective to express said gene.

35. The method of claim 34, wherein said SM22α promoter comprises bases 899-1382 of SEQ ID NO:1.

36. The method of claim 34, wherein said heterologous gene is a reporter gene.

37. The method of claim 34, wherein said gene is a cell cycle control regulatory gene.

38. The method of claim 34, wherein said adenoviral vector is a replication deficient adenoviral vector.

39. The method of claim 38, wherein said cell is in an animal and said vector is administered to said animal in a pharmacologically acceptable solution.

40. A method of inhibiting smooth muscle cell proliferation comprising the steps of:

(a) obtaining an isolated nucleic acid segment comprising a cell cycle regulatory gene operatively linked to an SM22α promoter region;

(b) transferring said nucleic acid segment into a smooth muscle cell; and

(c) maintaining said smooth muscle cell under conditions effective to express said cell cycle regulatory gene;

wherein expression of said cell cycle regulatory gene inhibits proliferation of said smooth muscle cell.

41. The method of claim 40, wherein said smooth muscle cell is in an animal.

42. The method of claim 40, wherein said cell cycle regulatory gene operatively linked to an SM22α promoter region comprises a viral or plasmid vector.

43. The method of claim 42, wherein said viral vector is an adenoviral vector.

44. The method of claim 40, wherein said cell cycle regulatory gene is selected from the group consisting of Rb, a phosphorylation deficient Rb gene, p53, p21, p16, p27, a cell cycle dependent kinase inhibitor, E2F inhibitor, a CDK kinase or a cyclin gene.

45. A method of preventing restenosis in a subject following balloon angioplasty, comprising the steps of:

(a) obtaining an adenoviral vector comprising a cell cycle regulatory gene operatively linked to an SM22α promoter region dispersed in a pharmaceutically acceptable solution; and

(b) administering said solution to said subject.

46. The method of claim 45, wherein said cell cycle regulatory gene encodes a constitutively active Rb gene product.

47. A method of promoting angiogenesis in a subject comprising the steps:

(a) obtaining a nucleic acid segment comprising an angiogenesis factor gene operatively linked to an SM22α promoter region; and

(b) transferring said nucleic acid segment into a smooth muscle cell to obtain a transfected cell;

wherein expression of said nucleic acid segment in said smooth muscle cell promotes angiogenesis.

48. The method of claim 47, wherein said smooth muscle cell is a coronary arterial or venous smooth muscle cell.

49. The method of claim 47, wherein said smooth muscle cell is a peripheral arterial or venous smooth muscle cell.

50. The method of claim 47, wherein said angiogenesis factor is VEGF.

51. The method of claim 47, wherein said nucleic acid segment comprising an angiogenesis factor gene operatively linked to an SM22α promoter region is contained in a viral or plasmid vector and said vector is administered to said subject.

52. The method of claim 38, wherein said transferring is done *ex vivo* and the method further comprises the steps:

(a) seeding a bioprosthetic graft or stent with said transfected cells to obtain a seeded graft or stent; and

(b) placing the seeded graft or stent into a coronary or peripheral artery or vein of a subject.

53. A method of inhibiting smooth muscle proliferation comprising the steps of:

(a) obtaining a nucleic acid segment comprising a cell cycle regulatory gene operatively linked to an SM22α promoter region;

(b) transferring said nucleic acid segment into a primary smooth muscle cell *ex vivo* to obtain a transfected cell;

(c) seeding a bioprosthetic graft or stent with said transfected cell to obtain a seeded graft or stent; and

(d) placing the seeded graft or stent into a coronary or peripheral artery or vein of a subject;

wherein expression of said cell cycle regulatory gene inhibits proliferation of a smooth muscle cell.